

by the edge section 401e of the substrate holder can be prevented. When the width H of the silicon rubber member is less than 0.1 mm, mechanical load to the edge section 401e due to deformation of a substrate can not be evaded, and when the width H is 0.5 mm or more, suppression of deformation of a substrate can not be expected. Although a silicon rubber member is used for the edge section 401e in this embodiment, the effects obtained in this embodiment are not limited to the one obtained when the silicon rubber is used, and any material such as a molded resin body may be used so far as the hardness is lower than that of a substrate.--

IN THE CLAIMS

--1. (Amended) An optical disk substrate film-formation apparatus which manufactures an optical disk by forming a thin film on the surface of a substrate, said apparatus comprising:

a substrate holder which fixes said substrate during the formation of said film,
wherein said substrate holder has a contact holding surface contacting at least a portion of a rear surface of a film-formed area of said substrate on which said film is formed,
and

wherein said contact holding surface is substantially planar with a top surface of said substrate holder.

2. (Amended) The optical disk substrate film-formation apparatus according to claim 1, wherein said contact holding surface is made from a material with a hardness lower than said substrate.

6. (Amended) An optical disk substrate film-formation apparatus which manufactures an optical disk by forming a thin film on the surface of a substrate, said apparatus comprising:

a substrate holder which fixes said substrate during the formation of said film, wherein said substrate has a thickness of 0.6 mm or less, and said substrate holder has a contact holding surface contacting at least a portion of a rear surface of a film-formed area of said substrate on which said film is formed, and

wherein said contact holding surface is substantially planar with a top surface of said substrate holder.

7. (Amended) The optical disk substrate film-formation apparatus according to claim 6, wherein said contact holding surface is made from a material with a hardness lower than said substrate.

11. (Amended) An optical disk substrate film-formation apparatus comprising: a substrate holder which holds a substrate at its rear surface so that sputter film formation can be carried out on the front surface of said substrate, said substrate holder having a substrate holding surface which comes in contact with said rear surface of said substrate,

wherein an entire surface of said substrate holding surface contacting said rear surface is rough [at at least a portion].

15. (Amended) An optical disk substrate film-formation apparatus comprising: a substrate holder which holds thereon a substrate as an object for film formation, said substrate holder having, a groove section which extends from a portion where said substrate holder contacts said substrate when said substrate holder is holding said substrate to a portion where said

substrate holder does not contact said substrate when said substrate holder is holding said substrate; and

a porous member which can allow air to pass through is provided in said groove section,

wherein a surface of the porous member is substantially planar with a top surface of said substrate holder.

16. (Amended) The optical disk substrate film-formation apparatus according to claim 15 , wherein said porous member is made from a [material with excellent] thermal conductivity material.

19. (Amended) An optical disk substrate film-formation apparatus comprising:
a substrate holder which holds thereon a substrate as an object for film formation,
said substrate holder having,
a groove section in a portion where said substrate holder contacts said substrate when said substrate holder is holding said substrate,

a porous member which can allow air to pass through is provided in said groove section; and

a through-hole which connects said groove section to the portion where said substrate holder does not contact said substrate when said substrate holder is holding said substrate,

wherein a surface of the porous member is substantially planar with a top surface of said substrate holder.

20. (Amended) The optical disk substrate film-formation apparatus according to claim 19, wherein said porous member is made from a [material with excellent] thermal conductivity material.

23. (Amended) An optical disk substrate film-formation apparatus comprising:

a substrate holder which holds thereon an optical disk substrate as an object for film formation;

an inner mask which masks a specified area on [the] an inner side of said optical disk;
and

an outer mask which masks a specified area on [the] an outer side of said optical disk;
wherein said inner mask and said outer mask being used for forming a thin-film on a surface of said optical disk substrate,

said substrate holder having,

a substrate holding section which contacts said optical disk substrate on the rear surface of said optical disk substrate but in [the] a portion where the thin-film has been formed on the front surface,

wherein [and] said substrate holding section contacts said optical disk substrate in the portion extending between a line which is 2 to 10 mm on the outer side of [the] an edge of said inner mask and a line which is 0.5 to 5 mm on the inner side of [the] an inner edge of said outer mask.

25. (Amended) The optical disk substrate film-formation apparatus according to claim 23, wherein [the] an edge of said substrate holding section is tapered.

27. (Amended) The optical disk substrate film-formation apparatus according to claim 23, wherein [the] an edge of said substrate holding section is made from a material having a hardness lower than the hardness of said optical disk substrate.

29. (Amended) The optical disk substrate film-formation apparatus according to claim 27, wherein said [low hardness] material of the edge of the substrate holding section is silicon rubber.

30. (Amended) An optical disk substrate film-formation apparatus used for sputter film formation in which a laminated film is formed by combining any one or two or more of a reflection layer, a recording layer, a protection layer, or a dielectric body layer on a disk substrate in an optical disk manufacture step comprising:

a gas supply section for introduction of gas in the substrate holder side in a limited portion between a substrate setting surface of the substrate holder and a film-formed substrate, and at least a closed space section in the area formed in the substrate holder side because of contact between the substrate and substrate holder,

wherein gas is supplied from the gas supply section during a period from a time point when sputter film formation is finished until a time point when a substrate is carried out, and

wherein the gas supplied from said gas supply section is also used as vent-gas for an intermediate chamber between atmosphere for inserting a substrate into or carrying out from the optical disk substrate film-formation apparatus and vacuum.

40. (Amended) The optical disk substrate film-formation apparatus according to claim 30, wherein the edge of a substrate holder forming a border between a contact section in which a rear surface of the substrate and the substrate holder contact to each other when the substrate is loaded on said substrate holder and a non-contact section, or at least a hole edge section of said gas supply section is [given a R processing] an R-machined.

41. (Amended) The optical disk substrate film-formation apparatus according to claim 30, wherein a surface of said substrate holder is lubricated via a lubrication process.

42. (Amended) The optical disk substrate film-formation apparatus according to claim 41, wherein the lubricating process includes one of a water-repelling processing [such as] including complex plating with water-repelling powder [such as] using carbon fluoride

(Cf)n or fluororesin (PTFE, PFE, FEP), or processing with a chlorosilane-based chemical adsorbent having a fluoroalkyl base [is executed as the processing for lubrication].

73. (Amended) A substrate holder which holds thereon a substrate as an object for film formation in an optical disk substrate film-formation apparatus, said substrate holder comprising:

a groove section which extends from a portion where said substrate holder contacts said substrate when said substrate holder is holding said substrate to a portion where said substrate holder does not contact said substrate when said substrate holder is holding said substrate; and

a porous member which can allow air to pass through is provided in said groove section,

wherein a surface of the porous member is substantially planar with a top surface of said substrate holder.--